

DETAILED ACTION

In view of the Appeal Brief filed on March 21, 2008, PROSECUTION IS HEREBY REOPENED. A new rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Thomas B Will/

Supervisory Patent Examiner

Art Unit 3671.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-6, 8-10 and 12-16 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Number 6,925,844 to Liu.

Liu discloses a lockset having a lock mechanism (100) including an actuator (110) having an aperture (112 and 114), an operator (111), and a turn button (200) mounted in the operator, the turn button having a head portion (220), and a shaft (230) having a leading helical end tip (236’’'), and means for self-alignment (column 7, lines 19-24) of the shaft with the aperture of the lock mechanism as the shaft is inserted into the aperture, as in claims 1 and 4, as well as the leading helical portion having a plurality of leading helical surfaces (figure 6C) that taper and twist from a transition line of the shaft toward an end of the shaft, as in claims 2, 5, and 9, as well as the plurality of helical surfaces smoothly transition between adjacent helical surfaces (smooth angle between the adjoining sides of the helical surfaces; figure 6C), as in claims 3, 6, and 10, wherein once the leading helical end portion engages the aperture, a rotation of the turn-button effects a corresponding rotation of the rotatable actuator of the lock mechanism (column 7, lines 53-58), as in claim 8.

Liu further discloses a rotation of the turn-button effects a corresponding rotation of the aperture of the lock mechanism (column 7, lines 53-58), as in claims 12 and 13, as well as the aperture of the lock mechanism has a substantially rectangular shape (the aperture has a complementary shape to that of the shaft), as in claims 13, 15 and 18, wherein a number of the plurality of leading helical surfaces is greater than two (at least 3 helical surfaces; figure 6C), as in claims 14, 16 and 19, and the leading helical end portion forms a plurality of side surfaces of the shaft (figure 6C), as in claim 20.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu, as applied above, in view of U.S. Patent Number 842,834 to Hurdle.

Liu discloses the invention substantially as claimed. Liu discloses a lock cylinder that has a helical keyway that is container within a lock shell. However, Liu does not explicitly disclose the exact environment the lock shell would be employed. Hurdle teaches of a locking assembly having a helical keyway inside of an operator, where the operator is a doorknob (r), in the same field of endeavor for the purpose of providing a compact lock, which cannot be picked and may be attached to a lock having a knob mounted on an actuation spindle (page 1, lines 14-21). It would have been obvious to one with ordinary skill in the art at the time the invention

was made to incorporate the locking assembly of Liu into a door knob, as taught by Hurdle, where the shaft of the turn-button would extend from the head portion through the door knob to engage the aperture of the lock mechanism in order to provide a compact lock which cannot be picked and may be attached to a lock having a knob mounted on an actuation spindle.

Response to Arguments

Applicant's arguments, see arguments, filed March 21, 2008, with respect to the 35 USC 103(a) rejection to Mirshafiee et al., in view of Dietrich et al. have been fully considered and are persuasive. The rejection of claims 1-6 and 8-20 has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Liu.

Applicant's arguments filed September 29, 2006 have been fully considered but they are not persuasive. In regards to the argument that Liu does not disclose a turn-button mounted in an operator, the examiner respectfully disagrees. As stated by the applicant, the examiner did give the claims their broadest reasonable construction in light of the specification as it would be interpreted by one of ordinary skill in the art, therefore, the term "operator" is construed to be one of a plurality of devices, components or elements that operate another object, wherein the specification is absent of any recitation to further limit this construction as it only gives an example of what an operator is (specification page 2, line 23). The applicant has not provided a limited definition to what the operator is, but rather left it open to a broad interpretation in both the specification and claims.

Furthermore, regarding the argument that the turn-button is not mounted in the operator, the examiner respectfully disagrees. The examiner takes the stance the "mounted" is defined to

be placed on a suitable support, wherein the turn-button of Liu is placed within the operator to allow a user to operate the lock between a locked and unlocked conditions.

Additionally regarding the argument that Liu does not disclose a turn-button or turnpiece, the examiner respectfully disagrees. Turn-buttons or turnpieces are used to actuate a lock or deadbolt between locked and unlocked positions by a user. Wherein keys are commonly used for this practice, especially when a user chooses to prevent unauthorized personal from actuating the lock or deadbolt. Furthermore, U.S. Patent Number 5,361,614; 5, 140, 843; and 3,630,053 show that it has been proven that keys are used as permanent turn-buttons or turnpieces.

In regards to the argument that Liu does not disclose a shaft, the examiner respectfully disagrees. One with ordinary skill in the art would recognize that key blades are also known as shafts or shanks.

Regarding the argument that the shaft of Liu does not taper from a transition line, the examiner respectfully disagrees. As clearly shown in figures 6, the helical surfaces taper towards a center, transition line (axial center line of the shaft) and end at the end of the shaft.

In regards to the argument that the plurality of leading helical surfaces of Liu do not smoothly transition between adjacent helical surfaces, the examiner respectfully disagrees. The inner surfaces of the helical transition between the distinct helical surfaces with smooth continual webs absent of any abrupt stops or jagged edges, thus a smooth transition between the helical surfaces, see figure 6C.

Regarding the argument that Liu does not disclose means for facilitating self-alignment of the shaft with an aperture as the shaft is inserted into the aperture, the examiner respectfully disagrees. The spiral design of the shaft of Liu can only be inserted in a proper way, and thus

due to the congruent shapes of the shaft and aperture, the turn-button self-aligns to correctly unlock the lock mechanism.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to locking assemblies with helical actuation elements:

U.S. Patent Number 5,361,614 to Metcalf
U.S. Patent Number 5, 140, 843 to Kruger
U.S. Patent Number 3,630,053to Krakauer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER BOSWELL whose telephone number is (571)272-7054. The examiner can normally be reached on 9:00 - 4:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia Engle can be reached on (571) 272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3671

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas B Will/
Supervisory Patent Examiner
Art Unit 3671

CJB /cb/
June 5, 2008